

**Notice of Allowability**

Application No.

09/823,394

Examiner

Elizabeth C. Kemmerer, Ph.D.

Applicant(s)

CHORY ET AL.

Art Unit

1646

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the interview of 12/29/2003.
  2. ☒ The allowed claim(s) is/are 4, 11, 12, 23-28, 31; renumbered as 4, 1, 2, 3, 5-10, respectively.
  3. ☒ The drawings filed on 3/30/01 are accepted by the Examiner.
  4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No. <u>3/24/03 9/22/03 EVK</u> | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other  |

### EXAMINER'S AMENDMENT

An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment which places this application in condition for allowance. During a telephone conversation conducted on 29 December 2003, Attorney Michael Fuller requested an extension of time for 1 MONTH(S) and authorized the Director to charge Deposit Account No. 11-1410 the required fee for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the claims:

- 1-3. (Canceled)
4. The BIN1 polypeptide of Claim 23, wherein the polypeptide comprises the amino acid sequence set forth in SEQ ID NO: 2.
- 5-10. (Canceled)
11. A substantially purified Brassinosteroid 1 plasma membrane receptor (BIN1) polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO: 2, wherein said fragment binds to brassinosteroids.
12. The fragment of Claim 11, wherein said fragment has an amino acid sequence corresponding to about amino acid residues 588 to 649 of SEQ ID NO: 2.
- 13-22. (Canceled)

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23. Substantially purified Brassinosteroid 1 plasma membrane receptor (BIN1) polypeptide having the amino acid sequence of SEQ ID NO: 2, or a variant thereof, wherein a single amino acid is replaced by another, and wherein said polypeptide has receptor kinase activity and is a receptor for brassinosteroids.
24. The polypeptide of Claim 23, wherein said polypeptide has a molecular weight of approximately 130 kD, as determined by SDS-PAGE.
25. The BIN1 polypeptide of Claim 23, wherein said receptor kinase activity is activated by brassinolide.
26. The BIN1 polypeptide of Claim 23, wherein said polypeptide has a brassinosteroid binding affinity of approximately  $K_d=7.4+0.9$  nM to  $10.8+3.2$  nM.
27. The BIN1 polypeptide of Claim 23, wherein the Alanine at position 1031 is replaced by Threonine.
28. The BIN1 polypeptide of Claim 23, wherein the Threonine at position 750 is replaced by an Isoleucine.
29. The BIN1 polypeptide of Claim 23, wherein said variant is a conservative variant.

In the specification:

Please replace the first paragraph on page 4 of the specification, beginning on line 1, with the following paragraph:

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Still another embodiment of the invention provides a BIN1 mutant with missense mutations in the kinase domain (BIN1-104, A1031T) or in a region of the extracellular domain

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near the transmembrane domain (BIN1-102, T750-I) wherein the brassinolide binding activity is similar to the wild type and the biosynthetic mutant det2. Another BIN1 mutant with missense mutations (BIN1-6, G644-D) and a mutation causes a premature translation step (BIN1-116, Q583-stop), both in the 7 amino acid island region, wherein the brassinolide binding activity is greatly reduced.

### REASONS FOR ALLOWANCE

The amendments were made to obviate the remaining issues detailed in the previous advisory action. Applicant agreed to the examiner's amendment in order to expedite allowance without prejudice to Applicant's right to pursue the subject matter claimed in the now canceled claims in a continuing application.

### CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth C. Kemmerer, Ph.D. whose telephone number is (703) 308-2673. The examiner can normally be reached on Monday through Thursday, 7:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne L. Eyler, Ph.D. can be reached on (703) 308-6564. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



ECK

ELIZABETH KEMMERER  
PRIMARY EXAMINER